



## **NASB Newsletter**

### **June 2013**

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#### **Brady Murray of WWCR Elected President of NASB**

Brady Murray, Operations Manager of WWCR in Nashville, Tennessee, was elected President of the National Association of Shortwave Broadcasters at the NASB 2013 Annual Meeting in Birmingham, Alabama May 15-17. He replaces former President Glen Tapley of WEWN, whose term ended after two years as the Association's president. Murray had previously been Vice President of the NASB, and Charles Caudill, President of World Christian Broadcasting -- also based in the Nashville area -- was elected the new NASB Vice President. Jeff White and Thais White of WRMI in Miami were re-elected Secretary-Treasurer and Assistant Secretary-Treasurer, respectively.

Two NASB Board of Directors terms ended this year -- those of Glen Tapley of WEWN and Dr. Adrian Peterson of Adventist World Radio (AWR). Two new directors were elected: Terry Borders of WEWN and Dr. Dowell Chow, President of AWR. Borders is the manager of the WEWN transmitter site in Vandiver, Alabama. Dr. Chow is based at AWR headquarters in Silver Spring, Maryland, but spends much of his time travelling around the world.

The meeting was hosted by NASB member Eternal Word Television Network (EWTN), which

operates shortwave station WEWN. A welcome reception took place on the evening of May 15, followed by a barbecue dinner sponsored by EWTN at a renowned Birmingham restaurant called Dreamland Bar-B-Q.

On May 16, the meeting took place at EWTN headquarters in Irondale, a Birmingham suburb. Attendees toured the large state-of-the-art EWTN Television studios, watching part of a live broadcast and observing how a Catholic mass in Latin is translated and close-captioned. They saw the television and radio control rooms and the studios where EWTN Radio and WEWN shortwave programs are produced.

After the tour, there were a series of talks and presentations about shortwave-related subjects for the rest of the day. Dowell Chow of Adventist World Radio gave an overview of AWR's worldwide operations. He said that AWR operates with only 30 employees, but with the help of many more people who work at AWR studios around the world, producing programs in over 80 languages.

The NASB was pleased to welcome back an old member station, KVOH in Simi Valley, California, which has been off the air for some time. The license is still held by La Voz de Restauracion Broadcasting, but the Strategic Communications Group headed by Rev. John Tayloe is managing the station under the current owner's leadership. Tayloe's father-in-law was George Otis, who originally founded the station as part of the Voice of Hope network which included stations in the Middle East. The new managers are refurbishing the station's shortwave transmitter and they hope to have it back on the air within the next 90 days or so with programs in English and Spanish. The antenna is beamed from southern California toward Mexico and Cuba.

NASB meeting delegates had a chance to meet the new Vice President of Continental Electronics, who has recently taken over from Adil Mina -- a regular fixture at NASB meetings for many years. Mina has recently "semi-retired" to spend more time with his family, and more time at his home in Greece. His successor, Mike Rosso, gave a presentation in Birmingham about Continental Electronics and about Digital Radio Mondiale (DRM) -- its status and its plans for the near future. He was followed by Mark Allen of the Rohn Tower Company, NASB's newest associate member, who talked about "Considerations for Aging Broadcast Tower Structures." Allen gave a sobering report, complete with photos, of the disasters that can occur when antenna towers are not properly maintained. He explained how faulty lighting, ice, wind and construction errors can easily cause accidents that result in extensive property damage, serious injuries and even death. In these days of financial cutbacks, Allen explained that tower maintenance is not an area that broadcasters should cut back on.

Charles Caudill, President and CEO of NASB member World Christian Broadcasting, gave an update on his organization's struggle to get a new shortwave station on the air from the island of Madagascar, off the southeast coast of Africa. Madagascar World Voice has had its transmitter site ready with antennas erected for a few years now, but is waiting on approval from the

Madagascar communications minister to import its transmitters and put the station on the air. The Continental 100-kilowatt transmitters are sitting in crates in Houston waiting for shipment to Madagascar as soon as approval is granted. Caudill explained that elections will be held on the African island in July of this year, after which the government ministers will probably change, and this may give the station a better opportunity to get on the air in the coming months.

Thursday's talks continued with Brady Murray of WWCR on the use of shortwave radio as an educational broadcasting tool. A discussion afterwards also dealt with subjects such as the potential for DRM and domestic shortwave broadcasting. Jerome Hirigoyen of NASB associate member Telediffusion de France (TDF) gave a presentation about his company's large shortwave transmission facility in Issoudun, France. Seventeen 500-kilowatt transmitters and dozens of antennas -- including a rotatable version -- provide strong coverage of Africa, the Middle East, parts of the Americas and other regions of the world. Their main client used to be Radio France International, but TDF now sells airtime to a variety of public and private broadcasters from many countries. Finally, Dr. Jerry Plummer, WWCR's Frequency Manager, spoke about the transition of international broadcasting to the for-profit sector. Plummer explained that while many European public broadcasters have been reducing or eliminating their shortwave transmissions in recent years, many of their facilities are now owned or being used by privately-owned and often commercial enterprises. As Plummer proclaimed, "shortwave is definitely not dying."

On May 17, the NASB annual meeting took place at the transmitter site of WEWN on a rural mountaintop about 40 minutes' drive from Irondale. Once delegates reached the top of the mountain, they were treated to some spectacular views of the surrounding Alabama mountains and the nine large antennas that WEWN uses to reach the Americas, Europe, Africa and other parts of the world. Inside the transmitter building are four 500-kilowatt Continental transmitters which beam 24 hours per day of programming in English and Spanish.

WEWN originally broadcast programs in 22 languages, and when it first went on the air, some of its super-power transmissions -- particularly on the higher frequencies -- made their way into the homes of local residents. As Glen Tapley explained, "We had calls from people who were hearing voices in Chinese coming from their knives and forks!" Station personnel visited peoples' homes to install filters, and some of the highest frequencies were avoided in an attempt to cause less local interference.

About 11 employees operate the WEWN transmitter site, managed by Terry Borders. On this occasion, some of them were performing double duty as they prepared an excellent barbecue of hamburgers and hot dogs for the NASB attendees. After lunch, Jerry Plummer of WWCR explained why it is still difficult to find in-band HF frequencies, even with some of the large European broadcasters leaving long-used channels.

At the NASB business and Board meetings, the new board members and officers were elected. The members also agreed to assist NASB associate member Galcom International in its efforts

to obtain some special concessions that could permit the company to produce simple, ultra-low-cost DRM receivers in the \$20 range that could finally make DRM affordable for listeners in large parts of the world and viable for international broadcasters.

The date and place of the NASB 2014 Annual Meeting was announced. It will be held at the Voice of America/International Broadcasting Bureau relay station in Greenville, North Carolina. Initial information is already available on the NASB website, [www.shortwave.org](http://www.shortwave.org). Click on "Annual Meeting." There is also an online registration form for the meeting.

The [www.shortwave.org](http://www.shortwave.org) website will also soon have the PowerPoint presentations from NASB 2013 by Dr. Dowell Chow about Adventist World Radio, Mike Rosso with a DRM Update, Mark Allen about broadcast tower maintenance, and Jerome Hirigoyen about the TDF Issoudun transmitter site; as well as the summary of Dr. Jerry Plummer's talk about the difficulty of finding in-band HF broadcast frequencies which also appears here below. Eventually audio recordings of all of the Thursday sessions at the NASB annual meeting will be added to the website as well.

Three albums of photos from the 2013 meeting in Birmingham can be found on the NASB Facebook page, [www.facebook.com/nasbshortwave](http://www.facebook.com/nasbshortwave).

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#### **Message from Dr. Adrian Peterson, International Relations Coordinator, Adventist World Radio**

Dr. Adrian Peterson of NASB member Adventist World Radio (AWR) has just concluded two terms (six years) on the NASB Board of Directors. According to NASB rules, Board members may serve a maximum of two consecutive terms before they must leave the Board for at least a year. In his place, Adrian has been replaced by Dr. Dowell Chow, AWR President. As he ends six years of service on the NASB Board, Adrian Peterson sends the following message to his NASB colleagues:

**Dear NASB,**

The 2013 session of the annual NASB meetings is now over and all of these events have now passed into the annals of modern radio history. I am sure that it will long remain as a happy memory for all of the experienced radio personnel who enjoyed the privilege of participating in the activities and discussions this year. Time has gone by since the Birmingham meetings were concluded and it must surely be time for me to respond, and to take a nostalgic look at the past. I have read with interest all of the papers that were distributed in the 2013 meetings and I have digested the contents thoroughly and with keen intent.

It has been an awesome privilege for me to associate for so many years with so many talented and experienced personnel who are so closely involved in the many and varied aspects of international radio broadcasting. Technical and programming and administration and manufacturing and broadcasting are just some of the areas that are represented by the core radio personnel who take a practical part in forwarding the interests of international shortwave broadcasting in the United States and its territories.

Ever since the formation of NASB back nearly a quarter of a century ago, in the year 1989, I have followed

the development of these matters with interest. At the time, we were rather new in the United States, having transferred from India where I had been involved in the formulation of Adventist World Radio in Asia, AWR-Asia, and the development of the original AWR DX program, "Radio Monitors International" as a joint project between AWR & the Sri Lanka Broadcasting Corporation.

I have endeavored to rediscover the timing of my first visit to an NASB annual meeting, but the occasion has been lost in the mists of time; or perhaps more accurately, in the deleted memory of an aging human. I know it was at the time when Tulio Haylock represented Adventist World Radio and it must have been in Crystal City. The first "off site" NASB convention took place at the Adventist world headquarters building in Silver Spring MD back seven years ago, and since then, several significant "off site" locations have hosted an annual event. IBB-VOA Greenville for next year will provide a splendid opportunity to observe the vast outreach of a magnificent international shortwave broadcasting organization.

In perusing this year's documents, I note that Dan Elyea from WYFR has passed the duties of the Secretary-Treasurer to outgoing President, Jeff White of WRMI. Canadian receiver manufacturer Galcom was represented, as well as HCJB; no, not in Ecuador nor in my Australia, but rather here in Indiana. The capable Adil Mina from Continental has gone into retirement over in Europe, the equally capable Brady Murray from WWCR is the new NASB President, and the experienced Charles Caudill from KNLS & their new station in Madagascar is the new Vice President. I am so pleased that Dr. Dowell Chow is now representing AWR in the NASB arena; I have a tremendous appreciation for his leadership with Adventist World Radio and the development that he has brought to our own widespread international radio organization. It was so interesting to read about Mike Adams of previous FEBC fame and his current involvement in emergency response activities. Then too, the visit to the powerful WEWN shortwave station up there on the top of the hill is a real eye opener to all who are involved in international shortwave broadcasting.

2014? The Greenville station, with its original three transmitter & receiver sites is one of the world's great superstations, and it is surely a splendid venue for NASB next year. Then too, if David Ricquish, together with his Royal wife, Dr. Jo Del Monaco from New Zealand are able to attend next year that will add another dimension to the highlights of these coming NSAB events. (I am privileged to be a part of Radio Heritage in New Zealand, along with Jonathan Marks of Radio Netherland's "Media Network" fame, and the internationally respected Dr. Martin Hadlow.)

In closing, allow me to express my genuine appreciation for the expressions of good will on the part of those who were in attendance at Birmingham this year. I have appreciated such pleasant association with the many experienced NASB radio personnel for the past many years, and their involvement in the arena of international shortwave broadcasting has also been a matter of tremendous inspiration to me.

May I wish you all God's rich blessings in the endeavors of your life experience, and in your continued service to international shortwave broadcasting,

Yours in appreciation,

AMP.

Dr. Adrian M. Peterson  
Co-ordinator - International Relations & DX Editor  
Adventist World Radio

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Radio Heritage New Zealand

Adventist Radio Stations in Indiana

Board of Directors Emeritus

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**Finding in-Band HF Frequencies for Shortwave Broadcasters; Harder than ever and the Rationales  
Presented at the NASB 2013 Annual Meeting; May 2013  
Birmingham, Alabama, USA  
Dr. Jerry Plummer**

**Overview**

Even with the recent reduction in broadcast hours by several European government HF stations, frequencies remain hard to come by for frequency managers. The presentation will discuss this phenomenon and investigate rationales. Frequency allocation and management are based on the global standard HFCC database entries.

The decline in overall broadcast hours is primarily a European activity, with the exception of domestically based WYFR, and is paralleled by the economic woes of the EU beginning 2007-2008.

**Total Frequency Usage Globally**

That said, the total number of used frequencies from 2007 to 2013 declined by approximately 1100, or 17% at maximum, and regularly varied between 9 and 12% during the latter segment of this time frame. One would think that this total frequency reduction would allow for more open frequencies for HF frequency managers globally; yet this generally does not appear to be the case. How could this be?

**The First of Two Possible Answers**

One must first look at the frequency occupation between in band and out of band (OOB) usages. Of course, in band frequencies are more desirable, given their protection from the varied non-broadcaster segments using OOB regularly. These segments include most governmental broadcast global usages, such as military, aeronautical and oceanic, police, MARS and a host of other lesser known governmental usages-none of which are detailed publicly for a variety of reasons. While it is true that discovery and usage of an OOB frequency clear of any of the above is akin to finding a “clear channel”, it always remains a possibility that at any time, one of the above noted agencies will inform the broadcaster via their governmental regulatory agency to remove themselves from that frequency with immediate dispatch.

WWCR, for example, has fallen prey several times since 2009 to this conundrum, being forced to move immediately to another frequency. The impacts to bottom line profit are substantial-and given the recent movement from not for profit (governmental) broadcasters to the for-profit sector exacerbates the need for in band frequency procurement.

It appears that a substantial portion of the overall reduction in frequencies allocated involves OOB usage. Although specific research into the percentage movement is unavailable, most frequency managers globally will agree to this posture; and it is logical that movement to the inband frequencies would occur, given the above noted pitfalls to OOB usage.

### **The Second Possibility**

The secondary issue regarding inability to move inward to the inband frequencies involves time allocation to a specific and particular in band frequency. Many HF broadcasters, both governmental and for-profit, employ short time bursts for programming, typically in varied specific languages. It is not unusual to see frequency shifts from one frequency to another in fifteen minute increments, aiming at a different language/population in a different location. For the broadcaster looking for longer time usage of a specific frequency (as with many for-profit broadcasters such as WWCR), this makes frequency location and implementation much more difficult. These type of broadcasters tend to look for fewer overall frequencies in order to develop listener growth via minimization-the listener will be less confused about which specific frequency the broadcaster uses if there are fewer to remember. Many not for profit broadcasters will give away shortwave radios with only their specific frequencies programmed, so the above minimization is not an issue, but with for profit broadcasters with varying paid clients this is an extreme issue.

### **Other non-Considered Possibilities**

There has been, and will always be “wooden frequencies”, that is, frequencies allocated to a particular broadcaster that are not actually in usage. It is estimated that this percentage wooden has, and will remain the approximate same, expressed as an overall percentage. Much of this percentage will involve inband frequencies, it is estimated and is outside the scope of this presentation.

In addition, there are frequencies in use by non-HFCC members, such as Cuba, Taiwan and North Korea that are not in the HFCC database, but still there and broadcasting. There are also jamming frequencies in use by several governments globally to block frequencies/broadcasters aiming into those countries. This has been, and will continue to be, a detriment to frequency

management of inband frequencies; but as with the wooden frequencies was and is a continuing issue that is considered to be outside the scope of this presentation.

### **General Summary**

The overall reduction in total frequency occupation since the European broadcaster demise beginning 2007-2008 has done little to afford more inband frequencies available for the remaining international broadcasters.

This is probably due to two functions; a general movement to occupy newly available inband frequencies at the expense of movement from OOB; and the noted inband movement to include short time frames of frequency usage.

Given that no models exist in this area, it is presumptuous to assume that continued reduction in overall frequency usage (if it continues-which is somewhat doubtful) will possibly yield more longer hour, inband usage for existent HF broadcasters. More research needs to be done in this area, in order to delineate possible remedies.

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### **EWTN Global Catholic Radio Network**

EWTN Radio is heard on over 190 AM and FM radio stations throughout the United States. A list of affiliate stations can be found at [www.ewtn.com/radio/affiliates.pdf](http://www.ewtn.com/radio/affiliates.pdf). It can also be heard online at [www.ewtn.com/radio](http://www.ewtn.com/radio). EWTN Radio is on Sirius Satellite Radio on channel 130 in the United States and Canada ([www.ewtn.com/sirius/index.asp](http://www.ewtn.com/sirius/index.asp)). You can find EWTN Radio on mobile devices at [www.ewtn.mobi](http://www.ewtn.mobi). And of course WEWN is on shortwave to much of the world. The shortwave schedule can be found at <http://www.ewtn.com/radio/freq.htm>.

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### **Message from Michael P. Warsaw, President and Chief Executive Officer of EWTN**

Here at the Network, we remain constantly aware of the need to spread the joy and truth of our Lord. Each day we air programs, broadcast radio signals, and present the Gospel through the many new forms of media. Mother Angelica, who celebrates her 90th birthday this month [April 2013], followed the prompting of the Holy Spirit and created something that had never before existed. Her life is a beautiful example of living both the sacrifices of Lent and the joys of Easter. Her faith and perseverance established what is now an engine of the New Evangelization.

Mother's life inspires us in this labor of love. Thanks to you, Christ's message now reaches over 225 million households in more than 140 countries and territories. EWTN is the largest religious media network in the world, continuing day and night the work of Peter and the Apostles."

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## **The Birmingham Religious Pilgrimage**

from Greater Birmingham Convention and Visitors Bureau

Throughout history religious pilgrimages have drawn the faithful to significant sites all around the world. For many people a pilgrimage is the spiritual experience of a lifetime. Located in the stretch of the American South known as the Bible Belt, Birmingham receives thousands of religious devotees each year to tour the area's sacred sites and religious communities.

**EWTN Global Catholic Network** (Birmingham): What began in a garage-turned-studio in 1981 is now the premiere Catholic media network in the world. Live call-in talk shows, films, movies, documentaries, music, children's programs, devotionals, daily Mass and more are broadcast 24 hours a day in English, Spanish, German and French to more than 150 million homes in 140 countries and territories. You can join the audience of one of the Network's live shows, including EWTN Live, Threshold of Hope, and Life on the Rock. You can also tour the Network, which is nestled in the foothills of the Appalachian Mountains, see the sets, make a visit to the chapel and learn how this "network of miracles" got started.

**Our Lady of the Angels Monastery Farm** (45 miles north of Birmingham in Cullman): No religious pilgrimage tour of Alabama is complete without a visit to Our Lady of the Angels Monastery Farm. The dream of world-famous TV nun Mother Angelica, the monastery is home to the Poor Clare nuns and one of the most remarkable religious sites in the state. The immense structure features rock walls, marble floors, columns and 35 hand-crafted German stained-glass windows. A 15-foot tall hand-carved Spanish wooden wall separates the public from the cloistered nuns during services in the 200-seat chapel. Mother Angelica's goal was to restore the sense of awe generated by the magnificent cathedrals of the 13th Century. "When we have awe," Mother Angelica said, "we are inspired to look at God, not man."

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**Visit EWTN and the Shrine of the Most Blessed Sacrament**  
brochure from EWTN

Did you know that in only one trip you can visit the largest religious media network in the world and a religious shrine so beautiful it had to be divinely inspired? Located one hour apart, EWTN Global Catholic Network and the Shrine of the Most Blessed Sacrament offer pilgrims an experience as unique and unforgettable as our Foundress, Mother Angelica. Both facilities offer a wonderful gift shop with a huge selection of unique gifts, including EWTN videos and books by EWTN hosts.

**EWTN Global Catholic Network:** At EWTN, nestled in the foothills of the Appalachian Mountains, you can attend the Mass seen around the world, pray before the Blessed Sacrament, go to Confession, attend catechetical and inspiring spiritual talks, tour state-of-the-art TV

facilities, enjoy the beautiful grounds, attend a live studio show and maybe even meet your favorite EWTN host. An EWTN Studio Tour is available Monday-Friday at 2:45 PM. At 7:00 PM, live studio shows can be attended: Threshold of Hope on Tuesdays, EWTN Live on Wednesdays and Life on the Rock on Thursdays.

**Shrine of the Most Blessed Sacrament:** At the Shrine, which is also home to Our Lady of the Angels Monastery, you can meditate and pray in front of the Blessed Sacrament or while strolling through the various gardens, grottos, or the life-like Nativity scene. Attend Mass, Adoration and Confession and enjoy the medieval architecture of the magnificent Shrine with its upper and lower churches. The Nuns extend a personal invitation to pilgrims seeking spiritual renewal to join them silently as they pray the Divine Office and adore our Eucharistic Lord. Spiritual talks, noon Mass and healing services can be arranged for groups of 10 or more (adults/teens), but must be booked in advance. The church is open for Adoration Monday through Saturday from 6:00 AM-9:30 PM (CT) and Sunday from 6:00 AM-6:00 PM (CT). At the Our Lady of the Angels Chapel, Mass. Catechesis or healing services can also be arranged for groups of 10 or more, booked in advance. The Chapel is open daily from 6:00 AM-10:00 PM (CT).

For more information, contact: [pilgrimages@ewtn.com](mailto:pilgrimages@ewtn.com).

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### **Adventist World Radio at a Glance**

from AWR publications distributed at the NASB 2013 Annual Meeting

**Our Mission:** To broadcast the Adventist hope in Christ to the hardest-to-reach people groups of the world in their own languages. Radio -- especially shortwave -- overcomes the barriers of government restrictions, cultural opposition, illiteracy, geography, limited or no local church presence, and post-modern lifestyles.

**Broadcast Media Used:** Shortwave radio, national radio networks, local AM/FM stations, on demand (listen online at [awr.org](http://awr.org)), podcasts, and self-contained audio devices with pre-loaded content.

**Coverage:** Non-Internet broadcasts can be heard by three-quarters of the world's population. The target audiences are non-Christian listeners in the highly-populated and less-evangelized areas of the world, such as Asia, Africa, the Middle East and Eastern Europe.

**Languages:** AWR broadcasts programs in nearly 100 “heart language” -- the mother tongues which touch listeners’ hearts most profoundly. Languages are continually added as producers and airtime funding become available. family life, Adventist beliefs and more.

**Unique Programming:** “Magazine-format” programs are tailored to the needs of local listeners. The programs address all aspects of people’s lives, from spiritual and physical health to family life, Adventist beliefs and more.

**Cost:** The annual airtime cost for a one-hour shortwave program is only \$45,000.

**Results:** Many studios operate Bible correspondence schools, through which they can communicate with listeners in their own languages. AWR receives well over 100,000 letters, phone calls, e-mails and text messages from listeners every year. Countless more listeners are prevented from contacting us due to security issues, illiteracy, poverty and lack of mail service. Numerous “AWR churches” and listeners clubs have been created. Thousands and thousands of people around the world have accepted Jesus as their Saviour as a direct result of AWR’s programs.

**Why Radio?** Both program production and transmission are affordable and cost-effective. Radios are much more available and affordable than televisions or Christian printed materials in many of AWR’s target areas. Listeners do not need to be literate to access the gospel message. Listeners can unobtrusively listen to the gospel in places where evangelism is prohibited by law and sometimes punishable by death.

**Shortwave:** Why is shortwave important? First, it has the ability to travel thousands of miles around the world, given proper conditions. Secondly, most of the hardest-to-reach people groups in the world live in countries that are generally hostile to Christianity. Others live under severe conditions -- such as isolation or lack of electricity -- while still others are not able to read or write; they need to hear the gospel. By broadcasting from outside these restricted areas, we are not subject to local regulatory controls. Adventist World Radio broadcasts in approximately 80 languages daily on shortwave bands. Our most recent addition is the Tibetan language, which went on the air on August 11, 2011. While shortwave continues to be the unbeatable method of reaching into faraway places that are otherwise unreachable, the birth of new technologies has opened enormous opportunities for spreading the gospel. Forty years ago, there was no Internet, no cell phones, nor many other technologies that we take for granted today.

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**Continental Electronics 100/300/500 KW DRM Shortwave Transmitters**  
from Continental brochures distributed at NASB 2013 Annual Meeting

Building on the success of its solid-state modulator product line, Continental Electronics brings high-efficiency DRM transmissions to the world with its 418/419/420 product line of shortwave broadcast transmitters. Whether you are looking for a DRM upgrade, a brand new fully compliant DRM transmitter or even a fully configured DRM content server, Continental has your solution. Each transmitter includes a fully integrated DMOD3 DRM exciter.

### **Solid-State Modulator Upgrade Benefits:**

**Cuts Operating Costs up to 50%:** Reduced power consumption results in lower operating costs, lower heat to the building, more broadcast coverage for less operating dollars. The solid-state modulator pays for itself in one year of operating time.

**Eliminates Modulator Tubes:** By reducing the number of tubes, tube operating costs are cut to 30% of pre-modulation values. The concern over obsolescence of tube type disappears. Also gone are the modulation transformer, modulation reactor, modulation capacitor, and the heat associated with the modulator section.

**Eliminates Modulator Low-Level Stages:** Eliminate the need for hard-to-find small parts in the modulator. By eliminating the modulator bias supply, the modulator screen supply, modulator filament supply, and the audio input and audio driver stages of the transmitter, the parts count of the transmitter is drastically reduced. Also reduced are the number of fault conditions possible. The transmitter becomes much simpler and much more reliable. As companies discontinue many of the small parts used in older transmitters, the solid-state modulator upgrade can extend the useful life and reliability of transmitters.

**Eliminates High Voltage Power Supply:** The solid-state modulator places the stored energy of the 48 power supply modules away from the PA stage. Current must pass through an IGBT (Insulated Gate Bipolar Transistor). This allows each of the 48 supplies to act independently. The high-voltage power supply is completely eliminated. Modulation and HV for the final RF stage are both provided by the solid-state modulator.

**Eliminates HV Crowbar Circuit:** The solid-state modulator can detect faults and disconnect the power supplies from the PA tube in less than 50 microseconds. Each supply is instantly isolated from every other supply and PA fault current is reduced to tolerable values. Each solid-state modulator power supply operates with a solid-state series switch as its operating element. When the switches open, high voltage is completely and instantly removed from the PA. It is no longer necessary to dissipate the stored energy in a high voltage crowbar tube.

**Reduces Fault Currents:** Fault current is continuously monitored by sensors in the negative and positive output leads of the solid-state modulator. Fault reports are sent by fiber-optic cable to the modulation controller. The high voltage is removed from the PA stage within 50 microseconds. Peak currents, even in a direct short-circuit condition, seldom exceed 3-4 times

the DC current of the PA stage at carrier.

**Infinite Carrier Level Control:** The carrier power can be adjusted from zero to full output -- or any place in between. Carrier power is also dynamically adjustable using the Controlled Carrier-level Modulation (CCM) system provided. The CCM circuit dynamically adjusts carrier level to match the incoming program content. Additional power savings of up to 20% can be achieved.

Continental Electronics Corporation is the proud manufacturer of radio frequency broadcast transmitting equipment. CEC specializes in the design, development, manufacture, 24/7/365 support, and global distribution of leading-edge digital and analog transmitter systems.

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### **Rohn Products LLC**

from Rohn Product Catalog No. 3 distributed at NASB 2013 Annual Meeting

For over 65 years the Rohn name has been a leader in the telecommunications industry. The company has used its expertise in structural design and fabrication to expand into additional markets. Rohn is proud to service the major utility and wind energy companies in North America. These markets are just two of the latest to join telecom, sports lighting, broadband, broadcast and the others that have been using Rohn products to support their infrastructure products for six decades.

Founded in 1948 in Peoria, Illinois by Dwight Rohn, the Rohn product quickly became the industry standard for towers. The need for Rohn structures grew out of the television industry and a need for homeowners to have small towers adjacent to their homes to enable signal reception. The demand grew quickly and the company's knowledge and capacity were forced to grow with it. Soon television reception towers grew into radio towers, microwave towers, lighting structures and more. When the cellular technology exploded in the U.S., Rohn was there to provide the towers to support the rapid growth. The growth was not just in markets but in geographies.

By 1980, Rohn had structures standing on every continent and in nearly every country on the globe. We continue to supply towers and poles to all of the communications giants and regional carriers. We support utilities and transportation in all of North America. We have wind

turbine towers and meteorological towers across the globe. For over 60 years, our products have endured and our name continues to be recognized around the world as the industry standard.

When Americans turned on their first television sets, Rohn was there to improve fuzzy reception with our home antenna tower. During the 40's and 50's, a Rohn TV tower installed on a rooftop or in a backyard meant that the family's TV reception was the best on the block, even if the picture was only black and white and the screen just 12 inches wide.

Rohn's business serves the broadcast side of TV as well. With the advent of digital TV and compliance with FCC standards, broadcasters are choosing to remain competitive by expanding their services into more areas. To do so, they took to Rohn to deliver "tall towers," super structures rising as high as 2,000 feet, to broadcast TV signals to millions of viewers in a much wider geographic area.

Rohn towers are some of the tallest structures in the world, and we build each tower in accordance with our exacting standards for quality, performance and structural integrity. Our tall towers are helping change the way the world receives and views television signals. This innovation is nothing new for Rohn. Back in 1948 when we started our business, we were on the forefront of the television age. Today we stand ready to srvc the next wave of television broadcasting.

Rohn Products LLC  
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### **Initial Plans Announced for NASB 2014 Annual Meeting**

The 2014 Meeting will take place May 15-16, 2014 at the U.S. International Broadcasting Bureau transmitting station in Greenville, North Carolina.

Registration for the meeting is free of charge, and it is open to anyone with an interest in shortwave broadcasting or listening. To register, fill out our [online registration form](#) or send your name and e-mail address to Jeff White at [radiomiami9@cs.com](mailto:radiomiami9@cs.com).

**Dates:** May 15-16, 2014 (Thursday and Friday)

**Location:** IBB Greenville transmitter site (Edward R. Murrow Transmitting Station) - Greenville, North Carolina (about 15 miles southeast of Greenville proper)

**Hotel:** The City Hotel and Bistro in Greenville on the east side of town is recommended for ease of access to the transmitter site. We have secured an agreement with the hotel for a block of rooms for \$79.99 per night plus tax, single or double occupancy. Reservations should be made by April 15, 2014. After that date, the room block will be released and reservations will be on a space-available basis and the conference room rate is not guaranteed. The hotel offers a free hot buffet breakfast, free parking and free Wifi.

**Transportation:** A shuttle service will be employed for pick up and drop off for the conference (between the hotel and the transmitter site). Many airlines fly to Raleigh, which is about 85 miles from Greenville. However, there is an airport in Greenville which is served only by US Airways. This is the preferred airport for those who are flying to the meeting. There is normal taxi service from/to the airport and hotel, but personal individual pickups may be arranged based on flight schedules. (Participants must provide their flight schedules for this service.)

**Coffee Breaks and Lunches:** A local catering service will provide coffee and lunch services for the two days. The conference area will also serve as the lunch area. North Carolina pork and chicken barbecue will likely be on the menu, though the final menu will be determined at a later date (and of course some vegetarian options).

**Meeting Program:** Presentations at the meeting will include (tentatively) a talk by A.J. Janitschek of Radio Free Asia about "Green Engineering" and another by David Riquish of the Radio Heritage Foundation of New Zealand.

If you have any questions about the 2014 NASB Annual Meeting, or would like to sponsor an event at the meeting, contact Jeff White at [radiomiami9@cs.com](mailto:radiomiami9@cs.com)

**NASB Members:**

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